Reclamation's proposed operations, including the proposed supplemental water activities, will augment base flows for the shiner and avoid river intermittency. We anticipate the river will remain whole through the use of existing reservoir storage, bypass flows, the fish conservation pool, and managing block releases in cooperation with CID. Additionally, Reclamation has verbally committed to coordinating block releases with CID such that river intermittency will be avoided.

Interior Least Tern

After reviewing the current status of the tern, the environmental baseline for the action area, the effects of actions associated with this amendment of the biological assessment of Reclamation's proposed Pecos River dam operations, and cumulative effects, it is the Service's biological opinion that this action, as proposed, is not likely to jeopardize the continued existence of the tern because Brantley Reservoir represents a very small portion of their range. To date, no critical habitat has been designated for the tern; therefore, none will be affected.

VI. Incidental Take Statement

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of endangered and threatened species, respectively, without special exemption. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by Reclamation so that they become binding conditions of any grant or permit issued to any applicants, as appropriate, for the exemption in section 7(o)(2) to apply. Reclamation has a continuing duty to regulate the activity covered by this incidental take statement. If Reclamation (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Reclamation must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)]

Amount or Extent of Take

Pecos Bluntnose Shiner

Based on the best available information concerning the habitat needs of this species, the project description, and information furnished by Reclamation, from the date of this biological opinion, through October 31, 2006, take of the shiner will occur. Take will occur in the form of harm, harassment, and kill.

Adult shiner populations generally increased until the summer of 2002 (Hoagstrom 2003), indicating that block releases of less than 15 days did not significantly affect adult shiner population numbers upstream. Therefore, we do not anticipate that block releases will result in take of adult shiners.

The Service anticipates that shiner eggs and larvae will be taken as a result of this proposed action. This incidental take is expected to be in the form of harm, harass, and kill as the result of block releases during the spawning season. These block releases are anticipated to transport the eggs and larvae downstream into Brantley Reservoir. This will harm many eggs and larvae by modifying their habitat and subjecting them to abnormally large and lengthy discharges that will transport them into Brantley Reservoir where death will occur, or where they will be unable to successfully develop and breed and thereby contribute offspring to the next generation. It will also harass larvae through the disruption of the normal behavior pattern of seeking sheltered mesohabitats as they would under more natural, lower discharges. It is anticipated that killing of larvae and eggs will occur when they reach Brantley Lake through consumption by predatory fish, by exposure to higher salinity, or by other unsuitable habitat conditions in the reservoir. Reclamation's BA estimates that approximately 1.2 million eggs could be transported into Brantley Lake per day of block release (Reclamation 2005b). Because the survival of shiner from egg to adult is probably 1 percent or less (Reclamation 2005b), in this particular case, approximately 12,000 adults are potentially lost to the population. However, because these numbers were derived from a study conducted in 1997, when shiner abundance was much higher (approximately 6 times higher based on density), it is appropriate to decrease this number to match the current situation. Consequently, take for the loss of eggs and larvae into Brantley is reduced to 2,000 adults. Loss of these individuals has an adverse effect on the population. The precise level of incidental take is difficult to identify and quantify because shiner eggs and larvae are similar in size and color to four other fish species in the Pecos River.

As part of their proposed action, Reclamation is proposing to assist the Service in the capture and holding of shiner in refugia. The refugia would provide a secondary shiner population should any unforeseen circumstances (e.g., disease, parasites) impact the wild population. The NMFRO would coordinate with the NMESFO the collection and transfer of fish to the Dexter National Fish Hatchery and the NMFRO. Using experienced crews supervised by the NMFRO, shiners would be collected in spring 2006 and transferred to the Dexter facility and the NMFRO. Dexter and NMFRO would provide care and handling to maximize the survival of the translocated fish. Although the Service anticipates that take would occur with handling and translocating shiners into refugia (less than 20 percent), take is expected to be less than natural mortality (J. Brooks,

pers. comm. 2006). With only 500 shiners expected to be collected for the refugia, take is anticipated to be less than 100 individuals.

Effect of the Take

In the accompanying biological opinion, the Service determined that the level of anticipated take is not likely to jeopardize the continued existence of the shiner.

Amount or Extent of Take

Interior Least Tern

Incidental take in the form of harm and harassment will result in actual death or injury in the form of loss of reproduction and recruitment caused by habitat loss and alteration from continued operation and maintenance of Reclamation's proposed Pecos River dam operations. This take will be difficult to detect because terns are wide-ranging and may change nesting colonies from year to year. Therefore, reduced reproductive success may be masked by annual variability in localized population numbers. However, take of terns can be anticipated by continued river operations that fail to provide habitat conditions that support self-sustaining populations of terns in the action area. The level of take is based on periodic nest innundation, erosion and/or degradation of suitable nesting and foraging habitat, and continued human-disturbance and predation of terns at Brantley Reservoir, resulting in actual death and injury to terns. The following types of losses are possible:

1. Taking of eggs and chicks by flooding or erosion;

2. Precluding nesting and renesting of terns by inundation or wetting of shoreline nesting habitat;

3. Increasing predation on nests and chicks as a result of reduced nesting habitat or changes in predatory/prey relationships;

4. Increasing susceptibility of eggs and young to disturbance and/or destruction by human activities as a result of reduced nesting habitat;

5. Continued loss of habitat due to degradation and vegetation encroachment, resulting in actual death and injury as described above.

Terns were present at Brantley Reservoir in May 2005 in the cove where terns nested in 2004. In response to a block release in May 2005, the reservoir's surface level rose above 3,253 ft in elevation, inundating most of the previously-exposed potential nesting substrate on the reservoir's shoreline. By June 9, 2005, a large increase in water level had submerged all potential nesting habitat for the terns, except for one small area that was unsuitable because it had become overgrown with sprouting kochia and cockleburr (J. Montgomery, Fish and Wildlife Service permittee, annual survey report, December 30, 2005). Human recreational disturbance at this location in late June and July was a likely contributing factor to the lack of tern breeding

activity later in the breeding season. Regular monitoring found no evidence of tern nesting during the summer months even though approximately six to eight adults occupied Brantley Reservoir until August. Continued lack of recruitment in future breeding seasons could lead to complete loss of the colony at Brantley Reservoir. For these reasons, ensuring availability of suitable habitat when terns are expected to arrive in 2006 is an important measure to minimize incidental take.

In 2004, a total of at least 14 adult terns nested at Brantley Reservoir, with an estimated 7 nests on the lakeshore. Six juvenile terns were observed near the nesting area in late August (Bureau of Reclamation 2005b; J. Montgomery, Fish and Wildlife Service permittee, electronic mail message, August 23, 2004). We therefore estimate that the following numbers of adults and young may be incidentally taken by implementing this proposed action: Up to 14 adult terns are authorized to be taken in the form of harassment caused by high water levels resulting from block releases. The eggs and very young, immobile chicks of these pairs may be incidentally taken in the form of harm caused by water levels rising as a result of block releases. The number of chicks taken may be up to 3 per pair, or a total of up to 21 eggs or immobile chicks in any combination for first nests, and the same number for renesting terns, for a combined total of 42 eggs or immobile chicks. Up to 42 older, mobile young may be taken in the form of harm or harassment caused by high water levels resulting from block releases. Some of this age cohort could die as a result of displacement by high water levels and others may survive displacement.

Effect of the Take

In the accompanying biological opinion, the Service determined that these levels of anticipated take are not likely to result in jeopardy to the tern.

VII. Reasonable and Prudent Measures

Pecos Bluntnose Shiner

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the shiner.

1. Monitor the shiner population and river conditions.

2. Coordinate between all parties in the Pecos River to meet both the needs of the shiner and the water users.

Terms and Conditions

Pecos Bluntnose Shiner

In order to be exempt from prohibitions of section 9 of the Act, Reclamation must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. These terms and